

SEQUENCE LISTING

<110> Societ  des Produits Nestl 

<120> creA-gene

<130> 80050

<140>

<141>

<150> 99 104 923.0

<151> 1999-03-11

<160> 2

<170> PatentIn Ver. 2.1

<210> 1

<211> 4238

<212> DNA

<213> *Aspergillus oryzae*

<400> 1

```
ctgcagttcc agtttctacc ccgtaaattcc ctatcaactt agtccgcccc acattctttt 60
ttttttttcc tttttttttc gctcccggtc agagtgatag tgggatttat tacacaccgt 120
gcgtggtcga agaacgacac ggaagaagcc ccggaagacg ctttctctag gcaacaaatg 180
attgtactct tatgatactc aatacggtag aaaatagaga attgagatac gaaagctgac 240
tcatacagaac agaataaggg gaatttttga ttagcaaata acaataataa ttatacaaaa 300
aaacaaataa aaaaatttag gggactcccc acccgctgta atcctgggtg tatctcaaag 360
caaagcaggc gatctggggg gagcacgttc tttttttttc ttttctcttt tttctatttt 420
tttttttttt tttatttttag gtctatgcct ttttttttct tttccttttt tttttttttt 480
tttgcccccc gataattctc cccacacata ggacatactt tttttttttt tccttccact 540
cccttcaagg tctccgattc cgataacccc ctctaccagt tcgccctgcc tttttctctc 600
ccctcccccg aagctccatt tctctcttct tcccctccat tcctcattct tcctcttccg 660
tatttctctt atatgctcct atccccagac catttctcca gatttctctc tctttccctt 720
ctctcccttt cgacaaattg ttgcttgact acatccatct cgggttacct acttacagta 780
ccaattccgg atatactcta tcccacccat caccacattc cataacagcg ccctttcatt 840
gggaaagtca ctcttccttg aaattgggta catcgcgagc catcgtagct tctttaatcg 900
caaggcttgt gatactcttg cgggtgctgt tcatcaacta gtactttgcc aagagcaagt 960
ctccgtcttg tcgggtggtg atcgactctc cccgatttac ctaccctgtg tgcgacgaat 1020
cctgattcgc ctcggtcgtc cagcccttcc gagcttccct taagtacagg cttegtcccc 1080
tctttagctg cactcctcgg tgctagggta ggacgagtca catgccacca ccggcttctt 1140
cagtggattt caccaatctg ctgaaccctc agaataacga gactgggttct gcaccttcca 1200
cgccagtgga tagctccaag gctccctcta cccgctccag tactcagtcc aactctacca 1260
tggcctcgtc tgtagctta ctaccgcccc tcatgaaggg tgctcgtccc gcaacggaag 1320
aagcgcgcca ggatcttccc cgtccataca agtgtccctt gtgtgatcgc gccttccatc 1380
gtttggagca ccagaccaga catattcgca cacatacggg tgaaaagcca cacgcttgcc 1440
```

agttccccggg	ctgcacaaaa	cgcttttagtc	gctctgacga	gctgacacgc	cactcaagaa	1500
ttcacaacaa	ccccaaactcc	aggcggagta	acaaggcaca	tctggccgct	gccgctgccg	1560
ctgccgctgc	cggacaagag	aatgcaatgg	taaatgtgac	caacgcgggc	tcgttgatgc	1620
ccccgccac	aaagcctatg	acccgctctg	cgcctgtctc	tcaggttgga	tctccggatg	1680
tctccccctcc	gcactccttc	tcgaactatg	ccggtcacat	gcgttccaat	ctgggaccat	1740
atgctcgcaa	caccgagcgg	gcgtcctcgg	gaatggatat	caatctactt	gccaccgctg	1800
catctcaggt	tgagcgtgat	gaacaacatt	ttgggttcca	cgctgggtcca	cgtaatcacc	1860
atgtgttcgc	ctcgcgtcac	cacaccggtc	gtggcctgcc	ttccctttca	gcgtacgcca	1920
tctcgcacag	catgagccgt	tctcactttc	acgaggacga	ggatggttac	actcatcgcg	1980
tcaagcgctc	aaggcctaac	tcaccaaact	cgaccgctcc	gtcctcacccg	actttctctc	2040
acgáctctct	ttccccaacg	ccagaccaca	ctccgttggc	aacccttgct	cattcgccac	2100
gcttgaggtc	attgggatct	agcgaactcc	accttccttc	gattcgccat	ctgtccctcc	2160
atcacacccc	tgcccttgct	ccaatggagc	cccagccgga	aggccccaac	tattacagtc	2220
ccagccagtc	tcatgggtccc	acaatcagcg	atatcatgtc	cagacccgac	ggaacacagc	2280
gtaaactgcc	cgttccacag	gttcccaagg	tcgcggtgca	agatatgctg	aaccccagcg	2340
ctgggttttc	gtcgggtttcc	tcatcgacga	ataactctgt	cgcaggaaat	gatttggcag	2400
aacgtttcta	gcctgggtgcg	gctgcgaaac	cctttcaatg	tataaagttt	tgggctcaaa	2460
aaaaattctt	gactgtcata	cgcgctacga	aacgaataga	ctttgtgcat	ttacagtgcg	2520
tggttcatgg	gcatccttgg	tgtcggctgg	ctttctttgc	ttactttggt	cgagtatact	2580
tttgcgaggc	gtccatagtg	atagacgggt	gggatattct	tgtggctttt	tccgtgcttg	2640
ttcgattctc	ccctttcgct	ctccttgaaa	aatacctttc	ttatcctata	accatttggt	2700
tcattatccc	aatgggaatt	ggctctacag	ctcttattca	ttttgtctac	tcctctcctg	2760
aggcccagtc	ccctgataat	tccgggctct	accatataca	tttcatttcg	actatgtcag	2820
tttccgcttc	gatttagacc	tcgagcagga	cgaaggggtt	ccgaaagaaa	atacaaaaca	2880
aaattatagt	aatctgcgtt	tactttggca	taatacagta	gtcattagtt	gaggtaggca	2940
taatctggat	gtctaaccat	cacttgccct	aacctctac	catctgctgc	tagtatttgt	3000
cttacccgaa	acccaattca	acgagataga	tggattgacg	aataacaatt	tgttgtccag	3060
cgacatgcat	gatacatgcy	tacgtacata	cactaatagt	agtcacagac	cagttcatca	3120
catcctggtc	tcgggtatcc	agatacggaa	atgcgtaaga	ttggaagggt	ctaagaaaaa	3180
gcaaagaaaa	aggaaaagtt	aacactggct	ggcgtctctc	ttccatctct	gatcaatgtt	3240
attgttcgtc	actcagctgt	ggacgtggct	ccagtcaagt	tgtgaattat	gatagggtat	3300
tgttgacttg	acaagttgat	cttgatggaa	tcaaactctc	tccccgccag	attctgacgc	3360
ttgaggctct	cggatcgaat	gaacaacttt	tcgcaccaca	tcaaccgggt	gccgcgtgat	3420
gctggagaca	aaccgaccca	aacgtcacgg	tcacacggag	gatacgtttg	ctagagccag	3480
ctgatacccc	aagagacaag	aaggtaaagg	tcgcaaaaat	cttttcaata	agatggcatc	3540
ttccccccac	caacccttaa	ccattctcct	ttcaagctgt	gttgccccgc	tttgggtgcat	3600
gggcttgggt	agtgcggtcg	caaaactact	aatttaatga	ccgactgctg	ctgctttttc	3660
actcgccgct	cacggactaa	gcatgtggga	acaggatcgc	cccgtcacta	tttcagatcg	3720
tgtcgtatca	aggtgttcgc	ccggtgctgc	tggcacgaac	gccggccatc	caagatcatt	3780
gttctcattc	aaaccgggcy	gcttacgtct	agccgcggac	gtaagcacga	agagtgtgtg	3840
tagtggtggg	agtgaagccg	ttgccgaaac	catgccgtcc	tccacggccg	tcccgtcggt	3900
atcaagcgac	gctgcctccg	cttcatcctc	atcagcgggt	gtatctctgg	agacaagatg	3960
ggcggaagg	ctcacccggc	aggagatatt	agaagacgat	ggaacgggcy	cgctcgctcg	4020
cccgcgctcc	cgcctgctc	ggcaatatca	tcaccatacc	tatatctgtc	tgttctatat	4080
cttagattgt	caccacacct	tcgacgatgt	cgagcaatgg	aagactcacg	ttctgagcca	4140
cttccgaacc	cacgaaccac	cgcgaacagc	ccgatgccct	ctatgtccgg	gtgagcgggt	4200
cagcgacacc	cccgaacaga	aaggatggga	tcgcatgc			4238

<210> 2

<211> 431

<212> PRT

<213> *Aspergillus oryzae*

<400> 2

Met	Pro	Pro	Pro	Ala	Ser	Ser	Val	Asp	Phe	Thr	Asn	Leu	Leu	Asn	Pro
1				5					10					15	

Gln	Asn	Asn	Glu	Thr	Gly	Ser	Ala	Pro	Ser	Thr	Pro	Val	Asp	Ser	Ser
			20					25					30		

Lys	Ala	Pro	Ser	Thr	Pro	Ser	Ser	Thr	Gln	Ser	Asn	Ser	Thr	Met	Ala
	35						40					45			

Ser	Ser	Val	Ser	Leu	Leu	Pro	Pro	Leu	Met	Lys	Gly	Ala	Arg	Pro	Ala
	50					55					60				

Thr	Glu	Glu	Ala	Arg	Gln	Asp	Leu	Pro	Arg	Pro	Tyr	Lys	Cys	Pro	Leu
65					70					75					80

Cys	Asp	Arg	Ala	Phe	His	Arg	Leu	Glu	His	Gln	Thr	Arg	His	Ile	Arg
				85					90					95	

Thr	His	Thr	Gly	Glu	Lys	Pro	His	Ala	Cys	Gln	Phe	Pro	Gly	Cys	Thr
			100					105					110		

Lys	Arg	Phe	Ser	Arg	Ser	Asp	Glu	Leu	Thr	Arg	His	Ser	Arg	Ile	His
	115						120					125			

Asn	Asn	Pro	Asn	Ser	Arg	Arg	Ser	Asn	Lys	Ala	His	Leu	Ala	Ala	Ala
	130					135					140				

Ala	Ala	Ala	Ala	Ala	Ala	Gly	Gln	Gly	Gln	Glu	Asn	Ala	Met	Val	Asn
145					150					155					160

Val	Thr	Asn	Ala	Gly	Ser	Leu	Met	Pro	Pro	Pro	Thr	Lys	Pro	Met	Thr
				165					170					175	

Arg	Ser	Ala	Pro	Val	Ser	Gln	Val	Gly	Ser	Pro	Asp	Val	Ser	Pro	Pro
			180					185					190		

His	Ser	Phe	Ser	Asn	Tyr	Ala	Gly	His	Met	Arg	Ser	Asn	Leu	Gly	Pro
	195						200					205			

Tyr	Ala	Arg	Asn	Thr	Glu	Arg	Ala	Ser	Ser	Gly	Met	Asp	Ile	Asn	Leu
	210					215					220				

Leu Ala Thr Ala Ala Ser Gln Val Glu Arg Asp Glu Gln His Phe Gly
 225 230 235 240
 Phe His Ala Gly Pro Arg Asn His His Leu Phe Ala Ser Arg His His
 245 250 255
 Thr Gly Arg Gly Leu Pro Ser Leu Ser Ala Tyr Ala Ile Ser His Ser
 260 265 270
 Met Ser Arg Ser His Phe His Glu Asp Glu Asp Gly Tyr Thr His Arg
 275 280 285
 Val Lys Arg Ser Arg Pro Asn Ser Pro Asn Ser Thr Ala Pro Ser Ser
 290 295 300
 Pro Thr Phe Ser His Asp Ser Leu Ser Pro Thr Pro Asp His Thr Pro
 305 310 315 320
 Leu Ala Thr Pro Ala His Ser Pro Arg Leu Arg Ser Leu Gly Ser Ser
 325 330 335
 Glu Leu His Leu Pro Ser Ile Arg His Leu Ser Leu His His Thr Pro
 340 345 350
 Ala Leu Ala Pro Met Glu Pro Gln Pro Glu Gly Pro Asn Tyr Tyr Ser
 355 360 365
 Pro Ser Gln Ser His Gly Pro Thr Ile Ser Asp Ile Met Ser Arg Pro
 370 375 380
 Asp Gly Thr Gln Arg Lys Leu Pro Val Pro Gln Val Pro Lys Val Ala
 385 390 395 400
 Val Gln Asp Met Leu Asn Pro Ser Ala Gly Phe Ser Ser Val Ser Ser
 405 410 415
 Ser Thr Asn Asn Ser Val Ala Gly Asn Asp Leu Ala Glu Arg Phe
 420 425 430